CONTROL EQUIPMENT MISCELLANEOUS AIR POLLUTION CONTROL PERMIT APPLICATION

Form 4530-110 11-93 Information attached? $\underline{\hspace{0.3cm}}$ (y/n)

SEE INSTRUCTIONS ON F	REVERSE SI	DE					_	
1. Facility name:		2. Facility id	entification r	number:				
3. Stack identification numb	oer:			4. <u>Unit identification number:</u>				
5. Control device number:								
6. Manufacturer and model	number:							
7. Date of installation:								
8. Describe in detail the dev	rice in use. A	attach a diagra	m of the sy	stem.	Attached?			
9. List the pollutants to be c		this equipmen Documentation			efficiency f	or each pol	lutant on the table below.	
Pollutant		ollutant ntration ppmv		capture ency (%)	Outlet p concen gr/acf		Efficiency (%)	
	gi/aci	рршу			gi/aci	ppiiiv		
			<u> </u>			<u> </u>	L	
10. Discuss how the colle	cted material	will be handle	ed for reuse	or disposal.				
	owing: ne individuals as such as ten ange of these bliance. atoring equip adule and iten als and spare	s(s), by title, respective that evariables, and ment will be pms or condition parts that will	esponsible f will be mor d a detailed provided (terns that will	for inspecting, intored in order description of mperature sense be inspected.	maintaining r to detect a r monitoring sors, pressure	and repairing malfunction or surveilla	ng this device. n or breakthrough, the unce procedures that will be	

CONTROL EQUIPMENT-CONDENSERS AIR POLLUTION CONTROL PERMIT APPLICATION

Form 4530-111 11-93 Information attached? __(y/n)

Heat transfer coefficient (BTU/ft²/hr/°F)

SEE INSTRUCTIONS ON REVERSE SIDE

Heat transfer area of the device (ft²):

Secti	on A										
1.Fa	. Facility name:					2. Facility identification number:					
3. <u>Sta</u>	ack identification n	umber:			4. <u>Unit identification number:</u>						
5. <u>Cc</u>	ontrol device number	er:									
6. Ma	anufacturer and mo	del number:									
7. <u>Da</u>	te of installation:										
8. <u>De</u>	escribe in detail the	condenser to	be used. Atta	ach a diagram	of the system	. A	ttached?	<u>-</u>			
9. Li	st the pollutants to		by this equiprumentation is		expected conti	ol efficiency	for each pollu	tant on the table below.			
	Pollutant Inlet pollutant Hood					Outlet pollutant		Efficiency (%)			
		concer	ntration	efficier	ncy (%)		ntration	• • •			
		gr/acf	ppmv			gr/acf	ppmv				
								_			
10.	Discuss how the c	ollected mate	rial will be ha	andled for reus	se or disposal.						
	-										
11.	Prepare a malfunc	tion prevention	on and abatem	nent plan (if re	equired under	s. NR 439.11) for this pollu	ation control system.			
	Please include the	following:		_			_	·			
	a. Identification							g this device. or breakthrough, the			
								ce procedures that will be			
	used to show c	ompliance.			-			•			
	c. What type of r						re sensors, CE	Ms).			
	d. An inspectione. A listing of ma										
	f. Is this plan ava			will be maine	unica in inven	tory.					
Secti	on B										
The	following questions	must be answ	wered by sour	ces installing	new equipme	nt or existing	Units that can	not document control			
effic	iency of this device	by other mea	nns.								
12.	Average specific l (BTU/lb/°F):	neat of the con	ndensing med	<u>ium</u>	13. Pressu	re drop range	across the co	olant (psia):			
14	Mass flow rate of	condensing n	nedium (lb/hr)	<u>):</u>	15. Tempo T(inle		e condensing r T(out				
16.	Composition of th	e condensing	medium:		17. <u>Mass</u>	flow rate of the	ne vapor strear	<u>m (lb/hr):</u>			
18.	. Average specific heat of the vapor stream (BTU/lb/°F)				19. Inlet and outlet temperature of the vapor stream (°F)						

21.

CONTROL EQUIPMENT-ADSORBERS AIR POLLUTION CONTROL PERMIT APPLICATION

Form 4530-112 11-93 Information attached? $\underline{\hspace{0.1cm}}(y/n)$

SEE INSTRUCTIONS ON REVERSE SIDE

Secti	on A							
1. Fa	cility name:				2. Facility	identification n	umber:	
3. Sta	ack identification nu	ımber:			4. Unit ide	ntification num	her:	
5. Co	ontrol device numbe	r:						
6. M	anufacturer and mod	del number:						
	te of installation:							
	escribe the adsorber	to be used.	Attach a diagra	m of the syst	em.	Attached?		_
			8			_		
9. Lis	st the pollutants to b		by this equipmounts		expected con	trol efficiency	for each pollut	ant on the table below.
	Pollutant	Inlet po	allutant	Hood o	anture	Outlet p	ollutant	Efficiency (%)
	1 Ollutant	concen		efficien			itration	Efficiency (70)
				CITICION	(/0)			
		gr/acf	ppmv			gr/acf	ppmv	
						1	+	
							-	
							L	
10.					11 Gas	temperature at	the inlet (°F):	
12	Red onerating tem							
13.	Discuss how the co	ollected mate	rial will be han	dled for reus	se or disposa	1.		
	-							
		of the individuables such as any range of the ompliance. In a contioning equation in the contioning equation in the contioning equation in the contioning equation in the continuity of the cont	temperature the ese variables, a suipment will be items or condit are parts that w	at will be mo and a detaile provided (to ions that wil	onitored in o d description emperature s l be inspecte	rder to detect an of monitoring sensors, pressured.	malfunction of g or surveillanc	r breakthrough, the e procedures that will be
Secti	on B							
		must be answ	vered by source	es installing	new eaninm	ent or existing	Units which ca	annot document control
	iency of this device		•	- mouning		or emoting	CINCO WINDING	mor government continui
15.	Describe gas pretre							
16.	Breakthrough capa	city in lb. va	por/lb. adsorbe	nt:	17. Parti	al pressure(s) o	of all pollutants	in the inlet gas:
18.	Describe the adsor	ntion medium	n.					
19.	Bed void space (ft				20. Dime	ensions of the a	dsorption bed	(ft.):
21.	Porosity (%):							e device (ft/min):
23.		material is di	sposable Disc	cuss method				ide a schedule of bed
20.	replacement or reg		2500000. 2130	and monitou	or andpoint	2 1020101111011	110V	and a solitonia of total

CONTROL EQUIPMENT-CATALYTIC OR THERMAL OXIDATION AIR POLLUTION CONTROL PERMIT APPLICATION

Form 4530-113 11-93 Information attached? __ (y/n)

SEE INSTRUCTIONS ON R	EVERSE SIDE				Information a	(J/II)		
Section A			Г					
				ntification number	:			
3. Stack identification numb	er:		4. Unit identifi	cation number:				
5. Control device number:								
6. Manufacturer and model	number:							
7. Date of installation:								
8. Describe in detail the oxid	· · · · · · · · · · · · · · · · · · ·				Attached?			
9. List the pollutants to be co	ontrolled by this equipmentation		pected control e	fficiency for each	pollutant on the t	table below.		
Pollutant	Inlet pollutar	nt concentration	Outlet polluta	nt concentration	Efficier	ncy (%)		
	gr/acf	ppmv	gr/acf	ppmv	hood capture	pollutant destruction		
10: Check one: □ C	atalvtic	☐ Thermal ox	idizer					
used to show comp c. An inspection sche and/or regeneration expected lifetime. d. A listing of materia e. Is this plan availab	owing: e individuals(s), by a s such as temperatur ange of these variable bliance. edule and items or co a schedule for the be als and spare parts the	title, responsible for that will be mon les, and a detailed onditions that will and steps you have that will be maintain	or inspecting, maitored in order to description of more than the inspected. For avertaken to ensure taken taken to ensure taken to ensure taken to ensure taken take	aintaining and rep o detect a malfund nonitoring or surv or catalytic oxidiz ure the bed's prop	pairing this device ection or breakthro eillance procedur eers, discuss the re	bugh, the es that will be eplacement		
Section B								
The following questions muefficiency of this device by					hich cannot docui	ment control		
Catalytic oxidation			Thermal oxida	ntion				
13a. Operating temperature Max	e (°F): Min		b. Operating to Max	emperature (°F):	Iin			
14a. Catalyst bed volume (chamber volume				
15a. Gas volumetric flow r (ACFM):		onditions		as velocity throug		min):		
16a. Type of fuel used:			b. Type of fuel	used:				
17a. Maximum fuel use:			b. Maximum fuel used:					
18a. Type of catalyst used	and volume of cataly	vst used (ft ³):						
19a. Residence time (secon			b. Residence time (seconds):					

CONTROL EQUIPMENT-CYCLONE/SETTLING CHAMBERS AIR POLLUTION CONTROL PERMIT APPLICATION

Form 4530-114 11-93

Information attached? $\underline{\hspace{1cm}}$ (y/n)

	NSTRUCTIONS ON REVERSE SIDE						
	ion A		0 F 311	1.1 .1.0" .1	1		
	acility name:			identification			
	ack identification number		4. <u>Unit ide</u>	ntification nui	mber:		
	ontrol device number:						
	Innufacturer and model number:						
	ate of installation:						
8. <u>D</u>	escribe in detail the cyclone, multicyclone or Attached?	gravity setting	Chamber. 2	Auach a bluep	rint or diagram c	of the system.	
). Li	ist the pollutants to be controlled by this equi		xpected cor	ntrol efficiency	y for each polluta	ant on the table below.	
Pollutant		Inlet pollutant concentration			pollutant entration	Efficiency (%)	
		gr/acf ppmv		gr/acf	ppmv		
10. 11.	Pressure drop across the device (inches of label) Discuss how the collected material will be		e or dispos	al.			
12.	Prepare a malfunction prevention and abate Please include the following: a. Identification of the individuals(s), by the correct operating range of these variables used to show compliance. c. An inspection schedule and items or cond. A listing of materials and spare parts the e. Is this plan available for review?	itle, responsible op that will be nes, and a detailed	for inspecting in the following for inspecting for the following f	ng, maintainir order to detec n of monitorin	ng and repairing et a malfunction	this device. or breakthrough, the	
Sect	ion B						
	following questions must be answered by so siency of this device by other means.	urces installing	new equipn	nent or existing	g Units which ca	nnot document control	
13.	Device dimensions:		14. <u>Gas</u>	flow rate (AC	FM):		
5.	Inlet gas velocity (ft/sec):		16. <u>Inlet</u>	gas temperati	ure (°F):		
17.	Mean particle diameter (ft):		18. <u>Part</u>	icle density (lb	o/ft ³):		
	· · · · · · · · · · · · · · · · · · ·						

CONTROL EQUIPMENT-ELECTROSTATIC PRECIPITATOR AIR POLLUTION CONTROL PERMIT APPLICATION

Form 4530-115 11-93 Information attached? __ (y/n)

SEE INSTRUCTIONS ON REVERSE SIDE

Cartina A								
Section A 1. Facility name:	2 E	2. Facility identification number:						
3. Stack identification number:		nit identificatio		_				
5. Control device number:	4.0	IIII_IdeIIIIICalio	m number.	_				
6. Manufacturer and model number:				_				
7. Date of installation:								
	. 1:	C.1	A., 1	10				
8. Describe in detail the control system. Attach a bluepring	nt or diagram	of the system.	Attache	d?				
								
9. List the pollutants to be controlled by this equipment ar		ed control effic	eiency for each poll	utant on the table below.				
☐ Documentation is attach	ed			Т				
Pollutant	Inlet polluta	nt O	utlet pollutant	Efficiency (%)				
	concentratio	n c	concentration					
gr/	acf p	omv gr/a	acf ppmv					
10. Discuss how the collected metarial will be hardled:	for moves on a	Liama a a 1		l				
10. Discuss how the collected material will be handled	for reuse or c	usposai.						
				 _				
11. List the important design parameters of this device a	and their nor	mal operating ra	ange (e.g., primary	secondary voltage and				
current, spark rate of each field).								
12. Prepare a malfunction prevention and abatement pla	an (if require	d under s. NR 4	139.11) for this poll	lution control system.				
Please include the following:								
a. Identification of the individuals(s), by title, response								
b. Operation variables that will be monitored in ord								
these variables, and a detailed description of mo				used to show compliance.				
c. Cleaning method (mechanical rapping, magnetic			ays, etc.).					
d. An inspection schedule and items or conditions								
e. A listing of materials and spare parts that will be	e maintained	in inventory.						
f. Is this plan available for review?								
Section B								
The following questions must be answered by sources ins	talling new e	quipment or ex	isting Units which	cannot document control				
efficiency of this device by other means.	•	* *	•					
13. Length, width and height of fields or tube diameter	and 14.	Design partic	le migration veloci	ty (ft/sec):				
length (ft):	4110	Design partie	ie migration veloci	<u>(17,300).</u>				
	1.	NI 1 0.00	1.1					
15. Collection area (ft ²):	16.	Number of fie						
17. <u>Inlet gas pretreatment if applicable:</u>	18.			er/rectifier sets (kilovolts				
		and milliamp	eres):					
19. Liquid flow rate for wet precipitators (gal/min):	20.	20. Exhaust gas flow rate (acf/sec):						

CONTROL EQUIPMENT-WET COLLECTION SYSTEMS AIR POLLUTION CONTROL PERMIT APPLICATION

Form 4530-116 11-93 Information attached? __(y/n)

SEE INSTRUCTIONS ON REVERSE SIDE

Sect	ion A								
1.Fa	acility name:		2. Facility identification number						
3. <u>St</u>	ack identification number		4. <u>Unit identification number</u>						
5. <u>C</u>	ontrol device number								
6. M	anufacturer and model number								
7. <u>D</u>	ate of installation								
8. <u>D</u>	escribe in detail the control system. Attach a b	lueprint or dia	agram of the s	system.	Attached?	?			
9. Li	st the pollutants to be controlled by this equipn Documentation is		expected contr	rol efficiency	for each pollut	ant on the table below.			
	Pollutant		ollutant ntration		pollutant ntration	Efficiency (%)			
		gr/acf	ppmv	gr/acf	ppmv	_			
10.	Prepare a malfunction prevention and abatem Please include the following: a. Identification of the individuals(s), by title b. Operation variables that will be monitored these variables, and a detailed description c. An inspection schedule and items or cond d. A listing of materials and spare parts that e. Is this plan available for review?	ent plan (if ree, responsible l in order to do of monitoring itions that will	equired under for inspecting letect a malful g or surveillar ll be inspected	s. NR 439.11 g, maintaining action or brea ace procedure l.	g and repairing kthrough, the c	this device.			
Sect	ion B								
	following questions must be answered by source tiency of this device by other means.	ces installing	new equipme	nt or existing	Units which ca	nnot document control			
12.	Liquid flow rate (gal/min):		13. <u>Pressu</u> <u>H₂O):</u>		ss the scrubber	and demister (inches of			
14.	Inlet gas flow rate (ACFM):		15. <u>Inlet g</u>	as temperatu	re (°F):				
16.	Scrubbing medium (water, sodium hydroxide etc.):	slurry,	17. <u>Liquic</u>	l inlet pressur	re (psi):				

18. <u>Air to cloth ratio (acfm/ft²):</u>

CONTROL EQUIPMENT-BAGHOUSE/FABRIC FILTERS AIR POLLUTION CONTROL PERMIT APPLICATION

SEE INSTRUCTIONS ON REVERSE SIDE		530-117 11	-93	Inf	ormation attached? (y/n
Section A					
1. Facility name:		2. Facility i	dentification n	ımber:	
3. Stack identification number:		4. Unit ider	tification numl	per:	
5. Control device number:					
6. Manufacturer and model number:					
7. Date of installation:					
8. Describe in detail the control system. At	tach a blueprint or di	agram of the	system.	Attached?)
9. List the pollutants to be controlled by this ☐ Document	s equipment and the eation is attached	expected cont	rol efficiency f	or each pollut	ant on the table below.
Pollutant		ollutant ntration	Outlet pollutant concentration		Efficiency (%)
	gr/acf	ppmv	gr/acf	ppmv	
			ļ		
 Discuss how the collected material with the colle	of H ₂ O):			for this pollut	ion control system.
Please include the following: a. Identification of the individuals(s) b. Bag cleaning techniques and freques c. Operation variables that will be methese variables, and a detailed des d. An inspection schedule and items e. A listing of materials and spare parts f. Is this plan available for review?	nency of cleaning or inconitored in order to concern to confirm or conditions that with that will be maint	replacement s letect a malfu g or surveilla ll be inspecte	chedule for filt nction or break nce procedures d.	ers. athrough, the c	correct operating range of
Section B					
The following questions must be answered efficiency of this device by other means.	by sources installing	new equipme	ent or existing l	Units which ca	nnot document control
13. Filter medium or type of fabric mater	ial (if fabric, indicate	whether felt	or woven):		
14. Maximum inlet gas flow rate (ACFM	<u>):</u>	15. <u>Maxi</u>	mum inlet gas t	temperature (°	<u>F):</u>
16. Number of bags if applicable:	17. <u>Dimensions of bags/filters:</u>				

CONTROL EQUIPMENT - MISCELLANEOUS -- Form 4530-110 AIR POLLUTION CONTROL PERMIT APPLICATION INSTRUCTIONS

NOTE: Use of this form is required by the Department for any air pollution control permit application filed pursuant to ss. 285.61, 285.62 or 285.66, Wis. Stats. Completion of this form is mandatory. The Department will not consider or act upon your application unless you complete and submit this application form. It is not the Department's intention to use any personally identifiable information from this form for any other purpose.

Complete one form for each control device used to reduce air pollution emissions.

- Item 1 Provide the name of the facility.
- Item 2 Provide the facility identification (FID) number that appears on the annual emission inventory reports.
- Item 3 Provide the identification number for the stack exhausting this device. Use the same number used on form 4530-103.
- Item 4 Provide the identification number from the appropriate form(s) 4530-104, -105, -106, -107, -108, or -109 completed for the emissions unit(s) that will have its emissions reduced by this control equipment.
- Item 5 Assign an identification number to this control device (e.g., C01). Use this number when referring to this device throughout the rest of your application.
- Item 6 Indicate the equipment manufacturer and its model number.
- Item 7 Provide the installation date of this device. If this is a new device, indicate that it is new.
- Item 8 Describe the device in detail giving enough information for the reviewer to clearly understand how the device controls air pollution. Attach any calculation. Attach a blueprint or diagram that shows all equipment parts necessary for successful operation and any monitoring equipment provided. Manufacturer's literature may be used. Attach extra information on form 4530-135.
- Item 9 For each pollutant controlled, enter the inlet pollutant concentration and outlet pollutant concentration (use the same units), hood capture efficiency, and the overall efficiency of the control device. YOU MUST DOCUMENT all data by stack test, manufacturer-supplied guarantees, or by other means approved by the Department. Indicate that data is attached.
- Item 10 Discuss how collected material will be contained, transported, and ultimately disposed of. Examples of ultimate disposal include the local wastewater treatment plant or landfill. Describe any waste recycling or reuse.
- Item 11 Prepare a malfunction prevention and abatement plan according to sec. NR 439.11, Wis. Adm. Code. Please be as detailed as possible, keeping in mind that the rule contains more detail than appears at Item 11 of this form. While it is not necessary to submit this plan with the permit application, the Department may at any time request a copy of this plan from the facility.

CONTROL EQUIPMENT - CONDENSERS -- Form 4530-111 AIR POLLUTION CONTROL PERMIT APPLICATION INSTRUCTIONS

NOTE: Use of this form is required by the Department for any air pollution control permit application filed pursuant to ss. 285.61, 285.62 or 285.66, Wis. Stats. Completion of this form is mandatory. The Department will not consider or act upon your application unless you complete and submit this application form. It is not the Department's intention to use any personally identifiable information from this form for any other purpose.

Complete one form for each control device used to reduce air pollution emissions.

- Item 1 Provide the name of the facility.
- Item 2 Provide the facility identification (FID) number that appears on the annual emission inventory reports.
- Item 3 Provide the identification number for the stack exhausting this device. Use the same number used on form 4530-103.
- Item 4 Provide the identification number from the appropriate form(s) 4530-104, -105, -106, -107, -108, or -109 completed for the emissions unit(s) that will have its emissions reduced by this control equipment.
- Item 5 Assign an identification number to this control device (e.g., C01). Use this number when referring to this device throughout the rest of your application.
- Item 6 Indicate the equipment manufacturer and its model number.
- Item 7 Provide the installation date of this device. If this is a new device, indicate that it is new.
- Item 8 Describe the device in detail. For contact condensers, discuss type of spray nozzle and the mist elimination system or the number of baffles. If this is a surface condenser, discuss whether it is cross, concurrent, or countercurrent, the type of extended surface tubes, etc. Provide calculations. Attach a blueprint or diagram which clearly shows all equipment parts necessary for successful operation.

 Manufacturer's literature may be used. Attach extra information on form 4530-135.
- Item 9 For each pollutant controlled, enter the inlet pollutant concentration, hood capture efficiency, outlet pollutant concentration, and the overall efficiency of the control device for each pollutant emitted. Data entered in this table MUST BE DOCUMENTED, either by stack test or manufacturer-supplied guarantees or by other means approved by the Department. Please indicate (by checking the box) that this information is attached to this form. If you cannot complete this table or fail to provide sufficient documentation, you will have to fill out section B of this form or your permit application will be considered incomplete.
- Item 10 Discuss how collected material will be contained, transported, and ultimately disposed of. Examples of ultimate disposal include the local wastewater treatment plant or landfill. Describe any waste recycling or reuse.
- Item 11 Prepare a malfunction prevention and abatement plan according to sec. NR 439.11, Wis. Adm. Code. Please be as detailed as possible, keeping in mind that the rule contains more detail than appears at Item 11 of this form. While it is not necessary to submit this plan with the permit application, the Department may at any time request a copy of this plan from the facility.

- Item 12 Indicate the average specific heat of the coolant over the operating temperature range of the device.
- Item 13 Give the pressure drop range across the coolant (in actual pounds per square inch).
- Item 14 Indicate the mass flow rate of coolant through the device (in pounds per hour).
- Item 15 Indicate the operating inlet temperature and outlet temperature of the coolant (in degrees F).
- Item 16 Indicate the substance to be used as the coolant.
- Item 17 Give the mass flow rate of the vapor through the device (in pounds per hour). Ideal gas law may be assumed to apply.
- Item 18 Indicate the specific heat of the vapor over the operating temperature range of the device.
- Item 19 Indicate the operating inlet temperature and outlet temperature of the vapor (in degrees F).
- Item 20 Indicate the heat transfer area of the device (in square feet). Show all calculations.
- Item 21 Indicate the overall heat transfer coefficient. Show all calculations.

CONTROL EQUIPMENT - ADSORBERS -- Form 4530-112 AIR POLLUTION CONTROL PERMIT APPLICATION INSTRUCTIONS

NOTE: Use of this form is required by the Department for any air pollution control permit application filed pursuant to ss. 285.61, 285.62 or 285.66, Wis. Stats. Completion of this form is mandatory. The Department will not consider or act upon your application unless you complete and submit this application form. It is not the Department's intention to use any personally identifiable information from this form for any other purpose.

Complete one form for each control device used to reduce air pollution emissions from the air pollution sources to be covered by the permit.

- Item 1 Provide the name of the facility.
- Item 2 Provide facility identification (FID) number that appears on the annual emissions inventory reports.
- Item 3 Provide the identification number of the stack exhausting this device. Use the same number used on Form 4530-103.
- Item 4 Provide the identification number from the appropriate source Form 4530-104, -105, -106, -107, -108, or -109 completed for the emissions unit(s) that will have its emissions reduced by this control equipment.
- Item 5 Assign an identification number to this control equipment such as C01. Use this number when referring to this device throughout the rest of your application.
- Item 6 Indicate the equipment manufacturer and its model number.
- Item 7 Provide the installation date of this device. If this is a new device, indicate that it is new.
- Item 8 Describe the device in detail indicating whether it uses a fixed, moving or fluidized bed, if it involves multiple beds, if solvent is recycled (for fluidized beds), and any other relevant information. Also include calculations and design parameters used to determine adsorber type and size. Attach a blueprint or diagram of the device which clearly shows all equipment parts necessary for successful operation.

 Manufacturer's literature may be used. (Attach extra sheets if needed; Form 4530-135 may be used for this purpose.)
- Item 9 For each pollutant controlled, enter the inlet pollutant concentration, hood capture efficiency, outlet pollutant concentration, and the overall efficiency of the control device for each pollutant emitted. Data entered in this table MUST BE DOCUMENTED, either by stack test or manufacturer supplied guarantees or by other means approved by the Department. Please indicate (by checking the box) that this information is attached to this form. If you cannot complete this table or fail to provide sufficient documentation, you will have to fill out section B of this form or your permit application will be considered incomplete.
- Item 10 Indicate the volumetric gas flow rate in actual cubic feet per minute.
- Item 11 Give the gas temperature at the inlet in degrees fahrenheit.
- Item 12 Give the operating temperature range of the bed in degrees fahrenheit.
- Item 13 Discuss the fate of the collected material how it will be contained, transported, and its ultimate destination for disposal. Examples of ultimate disposal include the local wastewater treatment plant or landfill. Describe any waste recycling or reuse.
- Item 14 Prepare a malfunction prevention and abatement plan according to sec. NR 439.11, Wis. Adm. Code. Please be as detailed as possible, keeping in mind that the rule contains more detail than appears at Item 14 of this form. While it is not necessary to submit this plan with the permit application, the Department may at any time request a copy of this plan from the facility.

- Item 15 Describe any gas pretreatment methods, such as heating, cooling, or passing gas through a dust collection device prior to adsorption.
- Item 16 Give the breakthrough capacity in pounds of vapor per pound of adsorbent. This is the capacity of the bed at which unreacted vapors begin to be exhausted.
- Item 17 Describe the composition of the inlet gas stream. Give the partial pressures of each component.
- Item 18 Describe the chemical composition of the bed material. Include manufacturer's literature if available.
- Item 19 Give the void volume of the bed in cubic feet. This is the empty space between the bed particles.
- Item 20 Give the dimensions of the adsorber bed, either length, width, and height, or bed depth and radius, in feet. If only the bed volume is available, the bed depth must also be indicated. This is the dimension parallel to the gas flow.
- Item 21 Give the porosity of the bed particles. This is the percent of the total particle volume that is pore space.
- Item 22 Indicate the maximum gas velocity through the device in feet per minute.
- Item 23 Indicate your plan for disposal of spent bed material and/or your method and schedule of bed regeneration.

CONTROL EQUIPMENT - CATALYTIC OR THERMAL OXIDATION -- Form 4530-113 AIR POLLUTION CONTROL PERMIT APPLICATION INSTRUCTIONS

NOTE: Use of this form is required by the Department for any air pollution control permit application filed pursuant to ss. 285.61, 285.62 or 285.66, Wis. Stats. Completion of this form is mandatory. The Department will not consider or act upon your application unless you complete and submit this application form. It is not the Department's intention to use any personally identifiable information from this form for any other purpose.

Complete one form for each control device used to reduce air pollution emissions.

- Item 1 Provide the name of the facility. Item 2 Provide the facility identification (FID) number that appears on the annual emission inventory reports. Item 3 Provide the identification number for the stack exhausting to this device. Use the same number used on form 4530-103. Item 4 Provide the identification number from the appropriate form(s) 4530-104, -105, -106, -107, -108, or -109 completed for the emissions unit(s) that will have its emissions reduced by this control equipment. Assign an identification number to this control device (e.g., C01). Use this number when referring to this device throughout the rest of Item 5 your application. Indicate the equipment manufacturer and its model number. Item 6 Item 7 Provide the installation date of this device. If this is a new device, indicate that it is new. Give a complete description of the oxidation system including the type of burner, burner arrangements, type of fan, construction Item 8 materials, type of heat recovery system if used, and other relevant information. Attach a blueprint or diagram of the device which clearly shows all equipment parts, including the heat recovery system, necessary for successful operation. Manufacturer's literature may be used. Attach extra information on form 4530-135. Item 9 For each pollutant controlled, enter the inlet pollutant concentration and outlet pollutant concentration (use the same units), hood capture efficiency, and the overall efficiency of the control device. YOU MUST DOCUMENT all data by stack test, manufacturersupplied guarantees, or by other means approved by the Department. Indicate that data is attached. Item 10 Check the appropriate box indicating if this is a catalytic or a thermal oxidation system. Item 11 Discuss how collected material will be contained, transported, and ultimately disposed of. Examples of ultimate disposal include the local wastewater treatment plant or landfill. Describe any waste recycling or reuse.
- Section B This section must be completed by sources installing new equipment or by existing sources which cannot otherwise document the control efficiency of this device (such as with current stack test results). IF YOU HAVE ALREADY SUBSTANTIATED THE CONTROL EFFICIENCY OF THE DEVICE AT ITEM 9 ABOVE, YOU DO NOT NEED TO COMPLETE SECTION B.

with the permit application, the Department may at any time request a copy of this plan from the facility.

Prepare a malfunction prevention and abatement plan according to sec. NR 439.11, Wis. Adm. Code. Please be as detailed as possible, keeping in mind that the rule contains more detail than appears at Item 12 of this form. While it is not necessary to submit this plan

Note: If your oxidation system is catalytic, answer only column a. If it is thermal, answer only column b.

- Item 13 a. Indicate the maximum and minimum temperatures in the catalyst bed (in degrees F).
 - b. Give the maximum and the minimum operating temperatures for the combustion chamber of the incinerator.
- Item 14 Give the volume of the catalyst bed or combustion chamber (in feet³).

Item 12

- Item 15 a. Indicate the volumetric flow rate of the gas at the temperature and pressure under which combustion occurs.
 - b. Indicate the maximum gas velocity through the device at the temperature and pressure under which combustion occurs.
- Item 16 List the type of fuel (if any) that will be used in the catalytic or thermal oxidation system. If none, write "none". Indicate sulfur content for non-gaseous fuels.
- Item 17 Give the maximum hourly rate of fuel consumption for this unit (in Btu/hr).
- Item 18 Give the type of substance used as a catalyst and the volume used (in feet³).
- Item 19 Indicate the gas residence time. This is generally equal to the volume of the combustion chamber divided by the gas volumetric flow rate at combustion conditions.

CONTROL EQUIPMENT - CYCLONE/SETTLING CHAMBERS -- Form 4530-114 AIR POLLUTION CONTROL PERMIT APPLICATION INSTRUCTIONS

NOTE: Use of this form is required by the Department for any air pollution control permit application filed pursuant to ss. 285.61, 285.62 or 285.66, Wis. Stats. Completion of this form is mandatory. The Department will not consider or act upon your application unless you complete and submit this application form. It is not the Department's intention to use any personally identifiable information from this form for any other purpose.

Complete one form for each control device used to reduce air pollution emissions. If you are using more than one settling chamber in parallel, you must answer items 10 and 13 - 18 for each individual chamber. Use form 4530-135 for this purpose.

- Item 1 Provide the name of the facility.
- Item 2 Provide the facility identification (FID) number that appears on the annual emission inventory reports.
- Item 3 Provide the identification number for the stack exhausting to this device. Use the same number used on form 4530-103.
- Item 4 Provide the identification number from the appropriate form(s) 4530-104, -105, -106, -107, -108, or -109 completed for the emissions unit(s) that will have its emissions reduced by this control equipment.
- Item 5 Assign an identification number to this control device (e.g., C01). Use this number when referring to this device throughout the rest of your application.
- Item 6 Indicate the equipment manufacturer and its model number.
- Item 7 Provide the installation date of this device. If this is a new device, indicate that it is new.
- Item 8 Describe the device indicating whether it is a cyclone, multicyclone, or a gravity settling chamber. Include information on the inlet (whether top, axial, or bottom), type of entry (tangential, helical, etc.), the dust discharge system, hopper design, type of gas outlet, and any other relevant information. Attach a blueprint or diagram of the device which clearly shows all equipment parts necessary for successful operation. Manufacturer's literature may be used. Attach extra information on form 4530-135.
- Item 9 For each pollutant controlled, enter the inlet pollutant concentration and outlet pollutant concentration (use the same units), hood capture efficiency, and the overall efficiency of the control device. YOU MUST DOCUMENT all data by stack test, manufacturer-supplied guarantees, or by other means approved by the Department. Indicate that data is attached.
- Item 10 Give the pressure drop across the device (in inches of water).
- Item 11 Discuss how collected material will be contained, transported, and ultimately disposed of. Examples of ultimate disposal include the local wastewater treatment plant or landfill. Describe any waste recycling or reuse.
- Item 12 Prepare a malfunction prevention and abatement plan according to sec. NR 439.11, Wis. Adm. Code. Please be as detailed as possible, keeping in mind that the rule contains more detail than appears at Item 12 of this form. While it is not necessary to submit this plan with the permit application, the Department may at any time request a copy of this plan from the facility.

- Item 13 For cyclones, give the following dimensions for your cyclone: D_c = body diameter, L_c = body length, Z_c = cone length, D_a = exit tube diameter, S_c = length of exit tube in cyclone, H_c = inlet height, and B_c = inlet width. These dimensions can be used to verify efficiency claims. For gravity settling chambers, give the length L, the height H, and the width B, of the device. For cyclones of alternative design, provide a diagram labeling the dimensions of analogous parts.
- Item 14 Give the gas flow rate at the inlet of the device (in actual cubic feet per minute).
- Item 15 Give the velocity of the gas at the inlet (in feet per second).
- Item 16 Give the average temperature of the inlet gas stream (in degrees F).
- Item 17 Provide the mean particle diameter (in feet) of the dust this device is expected to collect. You can calculate it from experimental data or obtain it from the literature. Attach calculations or documentation.
- Item 18 Give the density of the particles (in pounds per cubic foot) this device is expected to collect. You can calculate it from experimental data or obtain it from the literature.

 Attach calculations or documentation.
- Item 19 Give the number of turns for the cyclone. (This is an important design variable and should be part of the manufacturer's literature.) Show documentation. For gravity settling chambers, give the number of parallel chambers.

CONTROL EQUIPMENT - ELECTROSTATIC PRECIPITATOR -- Form 4530-115 AIR POLLUTION CONTROL PERMIT APPLICATION INSTRUCTIONS

NOTE: Use of this form is required by the Department for any air pollution control permit application filed pursuant to ss. 285.61, 285.62 or 285.66, Wis. Stats. Completion of this form is mandatory. The Department will not consider or act upon your application unless you complete and submit this application form. It is not the Department's intention to use any personally identifiable information from this form for any other purpose.

Complete one form for each control device used to reduce air pollution emissions. Item 1 Provide the name of the facility. Item 2 Provide the facility identification (FID) number that appears on the annual emission inventory reports. Provide the identification number for the stack exhausting to this device. Use the same number used on form 4530-103. Item 3 Item 4 Provide the identification number from the appropriate form(s) 4530-104, -105, -106, -107, -108, or -109 completed for the emissions unit(s) that will have its emissions reduced by this control equipment. Assign an identification number to this control device (e.g., C01). Use this number when referring to this device throughout the rest of Item 5 your application. Item 6 Indicate the equipment manufacturer and its model number. Item 7 Provide the installation date of this device. If this is a new device, indicate that it is new. Describe the device indicating if it is single-stage, two-stage, or tubular, etc. Discuss the method of gas flow distribution, and any other Item 8 relevant information. Attach a blueprint or diagram of the device that clearly shows all equipment parts necessary for successful operation. Manufacturer's literature may be used. Attach extra information on form 4530-135. Item 9 For each pollutant controlled, enter the inlet pollutant concentration and outlet pollutant concentration (use the same units), hood capture efficiency, and the overall efficiency of the control device. YOU MUST DOCUMENT all data by stack test, manufacturer-supplied guarantees, or by other means approved by the Department. Indicate that data is attached. Item 10 Discuss how collected material will be contained, transported, and ultimately disposed of. Examples of ultimate disposal include the local wastewater treatment plant or landfill. Describe any waste recycling or reuse. Give the primary and secondary operating voltage, current, and spark rate of each field. Item 11 Item 12 Prepare a malfunction prevention and abatement plan according to sec. NR 439.11, Wis. Adm. Code. Please be as detailed as possible, keeping in mind that the rule contains more detail than appears at Item 12 of this form. While it is not necessary to submit this plan with the permit application, the Department may at any time request a copy of this plan from the facility. Section B - This section must be completed by sources installing new equipment or by existing sources which cannot otherwise document the control efficiency of this device (such as with current stack test results). IF YOU HAVE ALREADY SUBSTANTIATED THE CONTROL EFFICIENCY OF THE DEVICE AT ITEM 9 ABOVE, YOU DO NOT NEED TO COMPLETE SECTION B. Item 13 Give the length L, width W, and height H, of each field (in feet). The width is the distance between the collection plates. For tubular precipitators, give the diameter D and the length L of the tube. Item 14 Provide the particle migration velocity (in feet per second). You can obtained this from manufacturer's specifications or calculate it mathematically. Show all calculations or document specifications. Give the effective collecting plate area of the precipitator (in square feet). This is the sum of the areas of all plate surfaces where Item 15 particles are collected.

Indicate the number of fields in the ESP. This is the number of individual sections installed in the device. Each field has a separate

Item 19 If this is a wet precipitator, give the inlet liquid flow rate (in gallons per minute).

If inlet gas is treated to control conductivity, describe the pretreatment process.

List the number of transformer-rectifier sets and their ratings (in Kilovolts and milliamperes or in kVA).

power supply and controls to adjust for varying gas conditions.

Item 20 Give the exhaust gas flow rate (in actual cubic feet of gas per second).

Item 16

Item 17

Item 18

CONTROL EQUIPMENT - WET COLLECTION SYSTEMS -- Form 4530-116 AIR POLLUTION CONTROL PERMIT APPLICATION INSTRUCTIONS

NOTE: Use of this form is required by the Department for any air pollution control permit application filed pursuant to ss. 285.61, 285.62 or 285.66, Wis. Stats. Completion of this form is mandatory. The Department will not consider or act upon your application unless you complete and submit this application form. It is not the Department's intention to use any personally identifiable information from this form for any other purpose.

Complete one form for each control device used to reduce air pollution emissions.

- Item 1 Provide the name of the facility.
- Item 2 Provide the facility identification (FID) number that appears on the annual emission inventory reports.
- Item 3 Provide the identification number for the stack exhausting to this device. Use the same number used on form 4530-103.
- Item 4 Provide the identification number from the appropriate form(s) 4530-104, -105, -106, -107, -108, or -109 completed for the emissions unit(s) that will have its emissions reduced by this control equipment.
- Item 5 Assign an identification number to this control device (e.g., C01). Use this number when referring to this device throughout the rest of your application.
- Item 6 Indicate the equipment manufacturer and its model number.
- Item 7 Provide the installation date of this device. If this is a new device, indicate that it is new.
- Item 8 Give a detailed description of the wet collection system used. Include information on specific type of scrubber (venturi, orifice, impingement plate), the scrubbing medium distribution system, the mist elimination system, nozzle or plate types, and any other relevant information. Show any calculations. Attach a blueprint or diagram of the system. Manufacturer's literature may be used. Attach extra information on form 4530-135.
- Item 9 For each pollutant controlled, enter the inlet pollutant concentration and outlet pollutant concentration (use the same units), hood capture efficiency, and the overall efficiency of the control device. YOU MUST DOCUMENT all data by stack test, manufacturer-supplied guarantees, or by other means approved by the Department. Indicate that data is attached.
- Item 10 Discuss how collected material will be contained, transported, and ultimately disposed of. Examples of ultimate disposal include the local wastewater treatment plant or landfill. Describe any waste recycling or reuse.
- Item 11 Prepare a malfunction prevention and abatement plan according to sec. NR 439.11, Wis. Adm. Code. Please be as detailed as possible, keeping in mind that the rule contains more detail than appears at Item 11 of this form. While it is not necessary to submit this plan with the permit application, the Department may at any time request a copy of this plan from the facility.

- Item 12 Give the liquid flow rate (in gallons per minute).
- Item 13 Give the operating pressure drop range across the scrubber and the demister (in inches of water).
- Item 14 Give the flow rate at the inlet of the gas to be cleaned (in actual cubic feet per minute).
- Item 15 Give the temperature of the inlet gas (in degrees F).
- Item 16 Indicate the scrubbing medium used. If not water, give the composition of the scrubbing medium including concentrations or mole fractions, etc. Form 4530-135 may be used for this purpose.
- Item 17 Indicate the liquid inlet pressure (in pounds per square inch).

CONTROL EQUIPMENT - BAGHOUSE/FABRIC FILTERS -- Form 4530-117AIR POLLUTION CONTROL PERMIT APPLICATION INSTRUCTIONS

NOTE: Use of this form is required by the Department for any air pollution control permit application filed pursuant to ss. 285.61, 285.62 or 285.66, Wis. Stats. Completion of this form is mandatory. The Department will not consider or act upon your application unless you complete and submit this application form. It is not the Department's intention to use any personally identifiable information from this form for any other purpose.

Complete one form for each control device used to reduce air pollution emissions.

- Item 1 Provide the name of the facility.
- Item 2 Provide the facility identification (FID) number that appears on the annual emission inventory reports.
- Item 3 Provide the identification number for the stack exhausting to this device. Use the same number used on form 4530-103.
- Item 4 Provide the identification number from the appropriate form(s) 4530-104, -105, -106, -107, -108, or -109 completed for the emissions unit(s) that will have its emissions reduced by this control equipment.
- Item 5 Assign an identification number to this control device (e.g., C01). Use this number when referring to this device throughout the rest of your application.
- Item 6 Indicate the equipment manufacturer and its model number.
- Item 7 Provide the installation date of this device. If this is a new device, indicate that it is new.
- Item 8 Describe the filtering system, including any relevant design information. Attach a blueprint or diagram of the device that clearly shows all equipment parts necessary for successful operation. Manufacturer's literature may be used. Attach extra information on form 4530-135.
- Item 9 For each pollutant controlled, enter the inlet pollutant concentration and outlet pollutant concentration (use the same units), hood capture efficiency, and the overall efficiency of the control device. YOU MUST DOCUMENT all data by stack test, manufacturer-supplied guarantees, or by other means approved by the Department. Indicate that data is attached.
- Item 10 Discuss how collected material will be contained, transported, and ultimately disposed of. Examples of ultimate disposal include the local wastewater treatment plant or landfill. Describe any waste recycling or reuse.
- Item 11 Give the pressure drop across the device (in inches of water).
- Item 12 Prepare a malfunction prevention and abatement plan according to sec. NR 439.11, Wis. Adm. Code. Please be as detailed as possible, keeping in mind that the rule contains more detail than appears at Item 12 of this form. While it is not necessary to submit this plan with the permit application, the Department may at any time request a copy of this plan from the facility.

- Item 13 Give the filter medium or the type of fabric used for the bags.
- Item 14 Give the maximum inlet flow rate of the gas (in actual cubic feet per minute).
- Item 15 Indicate the maximum temperature of the inlet gas (in degrees F).
- Item 16 For baghouses, indicate the number of bags in your device. Leave this section blank if using filters.
- Item 17 Give the diameter D and length L of each bag, or the length L and height H of each filter.
- Item 18 Air to cloth ratio is the ratio of the total area of the filtering media to the gas filtered.